| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/613,467 | 07/03/2003 | David Myr | MAK-105US | 4935 |

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| EXAMINER |
|---|
| OYEBISI, OJO O |

| ART UNIT | PAPER NUMBER |
|---|---|
| 3696 | |

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|---|---|
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| | Application No. | Applicant(s) |
|---|---|---|
| **Office Action Summary** | 10/613,467 | MYR, DAVID |
| | Examiner | Art Unit | |
| | OJO O. OYEBISI | 3696 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)☒ Responsive to communication(s) filed on <u>01/08/09</u>.
2a)☒ This action is **FINAL**.     2b)☐ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)☒ Claim(s) <u>1,3 and 6-16</u> is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) <u>1,3 and 6-16</u> is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

## Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All   b)☐ Some * c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____ .
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**
1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____ .
4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .
5)☐ Notice of Informal Patent Application
6)☐ Other: _____ .

U.S. Patent and Trademark Office
PTOL-326 (Rev. 08-06)          Office Action Summary          Part of Paper No./Mail Date 20090315

## DETAILED ACTION

In response to the notice of non-compliant amendment mailed 12/31/08, the

applicant has made the necessary correction(s). Applicant's correction is hereby

acknowledged. The applicant's amendment, filed on 09/24/08, has necessitated

the withdrawal of the rejection under 35 U.S.C. 112, first paragraph.

### *Claim Rejections - 35 USC § 103*

1.       The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set
forth in section 102 of this title, if the differences between the subject matter sought to be patented and
the prior art are such that the subject matter as a whole would have been obvious at the time the
invention was made to a person having ordinary skill in the art to which said subject matter pertains.
Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1.       Determining the scope and contents of the prior art.
2.       Ascertaining the differences between the prior art and the claims at issue.
3.       Resolving the level of ordinary skill in the pertinent art.
4.       Considering objective evidence present in the application indicating
         obviousness or nonobviousness.

2.       Claims 1, 3, and 6-16 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Kane (US PAT 6,317,728) in view of Freeny., Jr (US PAT: 6,594,643).

**Re claim 1.** Kane discloses a multi channel Machine Learning trading system for

generating number of independent trading strategies (i.e., agents) for respective

securities, the multi-channel learning trading system comprising: a data Feed module

for receiving real-time and historical trading data on the securities from a remote data

server (i.e., data acquisition system, see the abstract, also seecol.17 lines 3-12); and a

multi-channel machine learning module independently generating building respective

self-optimized buy/sell trading signals for each of the trading strategies by further

optimizing the respective optimized trading parameters for each of the trading

strategies, based on respective trading results from the real-time trading data (see

fig.16 and fig.17, also see col.11 lines 60-66 " carry Forward the Learning During

replays (training runs against historical data), a sequence of days is run many times.  If

the profit is improved upon during a run, the agent values that were in effect at the time

of the run are kept, and the agent knowledge base is updated.  During live runs with

real trading dollars, the system continually updates itself, thereby adapting to changing

market conditions.  This is highly unique among trading systems."). **Kane** does not

explicitly disclose a trading software module comprising: an optimization choice

module for generating optimized trading parameters, for each of the trading strategies,

by applying a) the number of respective trading parameters and b) historical trading

data including a price movement over time of the respective securities in the trading

strategy to a regression model to select only the trading parameters that generate

respective buy/sell trading signals over time that correspond to the price movement of

the respective securities, the selected trading parameters forming the optimized

trading parameters, a trading strategy building module for building the number of

independent strategies and generating independent respective buy/sell trading signals,

based on a number of respective trading parameters used to build each of the trading

strategies; the trading parameters being different for each trading strategy, and a multi-channel automatic execution platform for-transferring the respective self-optimized buy/sell trading signal for each of the trading strategies simultaneously through a number of parallel programming connection channels from a computer trader's to one or more computerized exchanges, automatically and completely without human intervention. However, **Freeny** discloses a trading software module (i.e., instructions/algorithm) comprising: an optimization choice module for generating optimized trading parameters, for each of the trading strategies, by applying a) the number of respective trading parameters (see col.3 lines 1-20) and b) historical trading data including a price movement over time of the respective securities in the trading strategy to a regression model (see col. 3 lines 1-50 – the examiner contends that regression is a statistics tool commonly used for data analysis and data modelling. Freeny discloses an investment algorithm (col.3 lines 40-45), which inherently uses regression to model data) to select only the trading parameters that generate respective buy/sell trading signals over time that correspond to the price movement of the respective securities, the selected trading parameters forming the optimized trading parameters, a trading strategy building module for building the number of independent strategies and generating independent respective buy/sell trading signals, based on a number of respective trading parameters used to build each of the trading strategies; the trading parameters being different for each trading strategy (i.e., The predetermined trading criteria include instructions, such as buy and sell orders, or algorithms capable of being used to analyze investment data to generate a trade

request to buy and/or sell one or multiples of an investment item or products. For

example, the predetermined trading criteria can be an instruction to buy and/or sell a

stock at a predetermined price. In addition, multiple instructions (predetermined

trading criteria) can be entered into the individual trading computer 16 to form a trading

sequence relating to the same or different investment items. For example, a

predetermined trading criterion to buy 100 shares of a stock at $50.00 and another

predetermined trading criterion to subsequently sell the 100 shares of the same stock

at $55.00 can be entered into the individual trading computer 16 before the

predetermined trading criterion to buy the 100 shares of stock at $50.00 has been

executed. The predetermined trading criteria can then be sequentially executed if the

stock's market price drops to $50.00 and then rises from $50.00 to $55.00. The

algorithm can be any algorithm and/or program capable of analyzing investment data

to produce the trade request, such as a commercially available investment algorithm,

see col.3 lines 22-45), a multi-channel automatic execution platform for-transferring the

respective self-optimized buy/sell trading signal for each of the trading strategies

simultaneously through a number of parallel programming connection channels from a

computer trader's to one or more computerized exchanges, automatically and

completely without human intervention (i.e., The data interface 12 is shown in more

detail in FIG. 2. The data interface 12 basically comprises an investment item data

receiver and storage unit 40 which receives signals from an interface unit 42 via a

communication link 44. The investment item data receiver and storage unit 40 can be

a model M1365117T obtainable from Data Broadcast Corporation. The interface unit

42 can be a receiver antenna and the data source(s) 20 can be a local radio station

which receives real time investment item quotes from a satellite station (not shown)

sent from an investment item exchange, for example.  In one embodiment, the

investment item data receiver and storage unit 40 can receive real time investment

item data on all investment items listed at investment item trading exchanges all over

the world, see col.5 lines 5-25) (see the abstract and the summary of the invention).

Thus it would have been obvious to one of ordinary skill in the art to combine the

teachings of Kane and Freeny in order to minimize the costs of submitting the trade

request signal (i.e., buying or selling investment items).

**Re claim 3.** Kane further discloses the system, further comprising means of

choosing if each of the buy/sell trading signals is executed as a market order, a limit

order, a stop or an order of different predetermined type individually for each trading

strategy (see fig.1 element 11, also see fig.2)

**Re claim 6.** Kane further discloses the system of claim 1, further comprising means of

choosing if each of the buy/sell trading signals is executed on a partial order execution

cases or all-or-none execution basis individually for each different trading strategy; the

means of handling partial order execution cases and readjusting the system when

partial order execution occurs (see col.12 lines 17-30, also see fig.11).

**Re claim 7.** Kane further discloses the system of claim 1, further comprising a hard-disk

residing database and a computer storage means for storing and accounting trader's

profit/loss information according to execution details  of each of the buy/sell trading

signals, independent of an additional bank or brokerage accounting system and in

addition to own profit/loss accounting system of a bank/brokerage (i.e., (6) Record

Trade Data and Account History: (185) When the system wakes up in the morning, it

interrogates the brokerage account to obtain available capital, available margin, and

other relevant information.  The system then proceeds to trade against the account, and

records the results of the trades including the reasons each position was taken and

exited, and all relevant tax and economic data.  All data is times tamped for later audit.

For example the prevailing price at the time of an order and the price the order is filled

at are both recorded and time stamped, see col.11 lines11-20).

**Re claim 8.** Claim 8 recites similar limitations to claim 1 and thus rejected using the

same art and rationale as in claim 1 supra.

 **Re claims 9-11.** Kane further discloses the system, further comprising means of

 choosing an execution trading strategy for each of the trading channels corresponding

 to the connection channels a number of strategies (i.e., decision logic and executing

 device, see fig.1 elements 14 and 11, see col.3 lines 10-60), according to strategy

 performance parameters including at least of a profit/loss, a volatility, or a maximal

 drawdown (see col.10 lines 35-66).

**Re claim 12.** Kane does not explicitly disclose the system, further comprising a multi-

channel means of choosing different execution channels  for  different  trading

strategies, from a list of  available order  execution  channels,  i.e. multi-channel

means  for  choosing  through  which  execution  channel  each   order will  be

sent  to  a  specific  market  for  each  specific  trading  strategy. However, Freeny

discloses a multi-channel means of choosing different  execution  channels   for

different trading strategies, from a list of available order execution channels, i.e. means for choosing through which execution channel each order will be sent to a specific market for each specific trading strategy (i.e., The individual selected market trader 28 receives the formatted trade request signal and in response thereto, the individual selected market trader 28 executes at least a portion of the trade. The individual selected market trader 28 is separate and apart from the individual trading computer 16. The individual selected market trader 28 can be anyone or anything that causes at least a portion of the trade to be consummated desirably on at least one trade exchange. The individual selected market trader 28 is selected by the individual from a plurality of potential traders, which may be Internet traders such as E-trade, Ameri-trade, Instinet, or Charles Schwab. The individual selected market trader 28 can be a company, an individual and/or a securities market, such as the New York Stock Exchange, the Pacific Stock Exchange, the Midwest Stock Exchange, the NASDAQ Stock Exchange, the over the counter market, the futures market, and/or the commodities market, see col.4 lines 10-33, also see col.6 lines 5-15). Thus it would have been obvious to one of ordinary skill in the art to combine the teachings of Kane and Freeny in order to minimize the costs of submitting the trade request signal (i.e., buying or selling investment items

**Re claims 13-15.** Kane does not explicitly disclose the system, further comprising a multi-channel means of choosing different order quantity and different maximal allowable Bid/Ask spread for each trading strategy. However, Freeny discloses a multi-channel means of choosing different order quantity and different maximal

allowable Bid/Ask  spread  for each trading strategy (i.e., The predetermined trading

criteria include instructions, such as buy and sell orders, or algorithms capable of being

used to analyze investment data to generate a trade request to buy and/or sell one or

multiples of an investment item or products.  For example, the predetermined trading

criteria can be an instruction to buy and/or sell a stock at a predetermined price.  In

addition, multiple instructions (predetermined trading criteria) can be entered into the

 individual trading computer 16 to form a trading sequence relating to the same or

 different investment items.  For example, a predetermined trading criterion to buy 100

 shares of a stock at $50.00 and another predetermined trading criterion to

 subsequently sell the 100 shares of the same stock at $55.00 can be entered into the

 individual trading computer 16 before the predetermined trading criterion to buy the

 100 shares of stock at $50.00 has been executed. The predetermined trading criteria

 can then be sequentially executed if the stock's market price drops to $50.00 and then

 rises from $50.00 to $55.00.  The algorithm can be any algorithm and/or program

 capable of analyzing investment data to produce the trade request, such as a

 commercially available investment algorithm, see col.3 lines 22-44). Thus it would have

 been obvious to one of ordinary skill in the art to combine the teachings of Kane and

 Freeny in order to minimize the costs of submitting the trade request signal (i.e., buying

 or selling investment items).

**Re claim 16.**  Kane discloses the API/SDK-based system, further comprising the

programming  means  of  receiving  order  execution  particulars  through  the

API/SDK and storing it (i.e., see fig.1elements 31, 27, 28, 29 and elements 17).

## *Response to Arguments*

3.      Applicant's arguments filed on 09/24/08 have been fully considered but they are

not persuasive. The applicant argues in substance that Freeny fails to disclose

an optimization choice module for generating optimized trading parameters, for

each of the trading strategies, by applying a) the number of respective trading

parameters and b) historical trading data including a price movement over time of

the respective securities in the trading strategy to a regression model to select

only the trading parameters that generate respective buy/sell trading signals over

time that correspond to the price movement of the respective securities, the

selected trading parameters forming the optimized trading parameters. The

examiner contends that Freeny discloses the use of investment algorithm to

generate optimized trading parameters using real and historical trading data (see

col.2 line 60-col.3 line 50). The examiner further contends that regression is a

statistics tool commonly used for data analysis and data modeling. Freeny

discloses an investment algorithm (col.3 lines 40-45), which inherently uses

regression to model data.

## *Conclusion*

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action.  In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action.  In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to OJO O. OYEBISI whose telephone number is (571)272-

8298.  The examiner can normally be reached on 8:30A.M-5:30P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Thomas Dixon can be reached on (571)272-6803.  The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system.  Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ella  Colbert/

Primary Examiner, Art Unit 3696

/O. O. O./
Examiner, Art Unit 3696